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AN INQUIRY INTO THE NATURE OF PLAY

by

© JUNE HOPE SCRABA

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

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FACULTY OF GRADUATE STUDIES AND RESEARCH

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ABSTRACT

Prompted by the diversity and discrepancy in the theoretical play literature, this study has attempted to analyze and synthesize the basic propositions of play theory and to delineate the implications for research and education.

Literature on play appears to have dealt with four major ideas: the mental components or structure of play, the ways in which play functions in the context of overall human development, the actual form or content of play activities, and the characteristics of play behaviour or descriptions of the nature of play activity. These four themes were used as categories within which to describe and compare the mainstream theories of play. The research was then examined in light of the four categories.

The investigation revealed that knowledge of play phenomena is limited and that many explanations of play exist but there is only one comprehensive theory of play, that of Jean Piaget. Play is a complex phenomenon and many, realizing its complexity and importance, are beginning to investigate its potential and its management. More research is required to explore the dimensions of play theory and to verify play assumptions and implications.

Play is a natural behaviour of children and a primary curriculum vehicle in early childhood education. The understanding of the many dimensions of play, essential for goals of educational organization, essential for teaching methodology and teacher education, are discussed.

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Chapter I

THE PROBLEM AND ITS SIGNIFICANCE

Introduction to the Problem

Play has become a major focus of research in early childhood education and a primary curriculum vehicle in early childhood programs. Educators are discovering that children "are highly activated in their play, but are seldom equally motivated for such long periods with anything else" (Sutton-Smith, 1975, p. 200).

Many individuals feel they understand "play" and some are even able to substantially agree on its identification but, as a behaviour, play escapes definition. Berlyne (1969) argued against identifying play as a special type of behaviour because the term stood for so many divergent activities.

Feitelson and Ross (1972) have said, "human play is one kind of behaviour which has often defied attempts at definition, classification and measurement" (p. 202). Klinger (1969) has further commented that, "positive definitions of play are quite divergent, often, bound up in theoretical positions and highly ambiguous in their boundaries" (p. 277). There appear to be few, if any, satisfactory explanations of the complexities of play.

The play literature has come from a variety of fields and contains many discrepancies. The word "play" is often used synonymously and in conjunction with terms such as "games," "imagination"

and "fantasy." Others have referred to these terms as separate notions. The empirical studies with these diverse theoretical roots are equally diverse.

The purpose of this investigation was to develop a framework for examining diverging theoretical positions. As the literature now exists, there is a need to draw out the similarities and differences among theories, to examine the diverse positions, locate the discrepancies and to synthesize and organize the play literature and research into a logical structure, from which further research can be conducted. Essentially, the purpose of this study was to answer the following questions:

1. What theories have been developed to account for the play phenomenon?
2. What similarities and differences existed in these play theories in terms of structure, function, content, characteristics and assumptions?
3. What theories have been supported by recent research?
4. What are the educational implications of the theories and research?

In short, the purpose was to construct a coherent, logically sound organization of play such that further research in the area could be constructed from a comprehensive and common base.

The Procedure

To examine and synthesize the various theoretical positions, a system of analysis was required which prevented obstruction of unique viewpoints. In this investigation, literature was reviewed and a

framework of four categories was presented through which the literature was analyzed. Various writers' views were discussed in relation to each of the four constructs in the framework.

Following the analysis of the theoretical positions, some of the research was reviewed and discussed in light of the four constructs. The research was further discussed in relation to the theoretical positions and synthesis. Implications were suggested for educational practices and further research.

Chapter II

LITERATURE RELATING TO THE NATURE OF PLAY

In order to develop a framework for examining diverging theoretical positions of play, a review of literature was necessary. The review touched upon the major theories of play, both historical and contemporary.

The review presented in this chapter served as the basis of the organization of the following chapters. Several concepts which are dealt with briefly in this chapter are elaborated in further chapters.

Many theorists have attempted to explain the reasons for children's involvement in play. Ellis (1973) in his analysis of fifteen such theories (see Appendices) says "there is little or no satisfactory body of theory concerning the motive to play and hence what play really is, existing in the minds of those making decisions influencing the play behaviour of our people" (pp. 6-7).

The intent of this chapter is to examine some of the major theories which have focused on explaining why children play. The classical theories have many shortcomings but tend to feature certain salient features of play and manage to capture some of the motives behind it.

Historical Play Theories

Ellis (1973) cites early explanations from Schiller and

Spencer. Their nineteenth century notion was that the organism played when an abundance of energy was present and triggered into activity. As environmental demands of energy decreased a surplus became available, then accumulated and resulted in play.

A second surplus energy theory operates on a similar notion. Ellis (1972) cites Tolman who said after a period of response deprivation the body possesses a metabolistic equilibrium and an increased tendency to respond. Thus, long periods of response deprivation presumably created periods of spontaneous response. However, play can occur when an individual is tired but energy levels are heightened. What is the explanation?

The instinct theory put forth by Groos and others proposed that play is an instinct, inherited, unlearned, and a pre-existent tendency to practise behaviours necessary for later life. Play involves the mastery of certain physical skills which lead to later improved functioning. Instincts are inherited imperfectly and childhood is a period of perfecting instincts, a preparation for later life.

In the early twentieth century, Stanley Hall proposed that play was a process of recapitulating activities which were essential for the survival of the race earlier in its history. Primitive activities had to be worked through before one could move on to the realities of adult life.

The relaxation theory explains play in terms of work. A person after working has the need to emit other responses. The proponents of the theory assume that play involves responses different from those of work. These responses are motivated to eliminate the unpleasant effects of work. Does the assumption, that only those who work then

play, hold true?

The generalization theorists adopt the position of work and play as separate entities or behaviours. An individual transfers to play rewarding work experiences.

The compensation theory, operating on the same notion, states that an individual avoids in play those activities which have been unsatisfying in work. Here again the theory operates on the premise that children work and further that only workers play.

This brief description of classical theories of play is a resume of some of the historical explanation of play. The more recent theories are somewhat fuller explanations but again open to many criticisms. They appear to fall into four main categories--the psychoanalytic, the behaviouristic, the cognitive and the cultural theories of play.

Psychoanalytic Approach

The psychoanalysts focus primarily on covert behaviour. Crucial to the child's development are unconscious factors, the basic instincts, drives, and motivations underlying the responses. Much of children's play is seen in terms of an attempt to satisfy drives or resolve conflicts.

Freud felt that play was a combination of wish fulfillment and mastery-efforts to cope with difficult anxiety producing situations (Ellis, 1973).

The notion of catharsis appears to be part of this theory, where the repeating of an unpleasant or excessive experience occurs in play. The individual converts a passive experience to an active one

and expresses a frustration or a hostility in an associated playful form. As these feelings are redirected in other activities, the tensions are relieved and reduced in seriousness. The child, through play, begins to come to terms with the experience.

Erikson (1950), White (1959) and others have expanded on the notion of conflict. They express the idea that play is first a defensive function and then a movement toward development of individual competence and effectiveness. Behaviour is motivated by a need to demonstrate control or produce effects in the environment, and thus avoid disorganization or lack of control.

Behaviourist Approach

The behaviourists concentrate primarily on overt behaviour. All behaviour comes about as the response of the organism to a stimulus in the environment. Play behaviour can be explained in terms of stimulus-response. Ellis (1973) reviews play in terms of learning theory and Thorndike's "law of effect" which claims people behave to increase the probability of pleasant events that are positively reinforcing. Ellis proposes that children's play increases the probability of pleasant events and decreases the probability of unpleasant events. The environment is a bombardment of both types of events. Through interaction with environment, individual responses are selected, a network of responses developed and a pattern of play behaviour learned. Previous responses or experience greatly influence present responses to similar and even new stimuli.

Sutton-Smith

Sutton-Smith's extensive work with play and games has

stimulus-response psychology leanings. Ellis (1973) focused upon several studies by Sutton-Smith (1951) and by Roberts and Sutton-Smith (1962) when describing the formulation and testing of the "conflict-enculturation hypothesis." The study of differences in child rearing practises and their effect on the play and games of children brought forth the hypothesis, "that conflict induced by child training processes and subsequent learning lead to involvement in games and other expressive models which in turn provide buffered learning or exculturation important both to players and to their societies" (Roberts, Sutton-Smith & Kendon, 1963, p. 185). In other words, rearing patterns created stress which was compensated for in a game that predominantly relieved that stress.

Games were categorized into those requiring strategy, skill and chance and the rearing practises were categorized into emphasis on obedience, responsibility and achievement. Simply, they correspond as follows:

Child Rearing Emphasis		Predominant Game Style
OBEDIENCE	⟶	games of STRATEGY
RESPONSIBILITY	⟶	games of CHANCE
ACHIEVEMENT	⟶	games of PHYSICAL SKILL

Data analysis revealed that games of strategy appeared in societies where emphasis was placed on obedience and submission to others. The games provided conflict and opportunities to force obedience on others.

In societies that reared their children for responsibility and the necessity of routine, games of chance dominated the children's play.

Societies that valued performance or achievement showed a preference for games of physical skill. Anxiety concerning achievement was worked through games of physical skill and conflict, where the performance outcome was less important.

"Roberts and Sutton-Smith argue that these conflicts are displaced and appear in games where there are opportunities to control others and where stylized but attenuated aggression forms the substance of the game" (Ellis, 1973, p. 73).

Roberts, Sutton-Smith and Kendon (1963) further found in studies of the folk tales and games that there was an increase in games of strategy as a society became more complex--politically, technologically and economically.

Sutton-Smith describes play in terms of the descriptive concepts drawn from his theory of games. He describes a game as, "an exercise of voluntary control systems, in which there is a contest between powers, confined by rules in order to produce a disequilibrial outcome" (Sutton-Smith, 1971, p. 298). If "games are a contest of powers, then it may follow that play is a contest of powers, a test of cognitive, affective and connotive powers" (Sutton-Smith, 1971, p. 299). He bases his theory on the assumption that the infrastructures of play are basic game elements. Sutton-Smith refers to "play as a transformational set" (1972, p. 32), "play as variability training" (1975, p. 197), and "play as novelty training" (1974, p. 255). He maintains "that play increases the child's repertoire of responses, an increase which has potential value for subsequent adaptive responses" (Sutton-Smith, 1967, p. 366).

Ellis

Ellis (1973) after perusing the various theories of play,

defines play as "that behaviour that is motivated by the need to elevate the level of arousal toward the optimal" (p. 110). Play is caused by the need to generate interactions with the environment or self that raises interest, arousal or stimulation to a high for the individual.

Ellis (1973) develops the notion of play as stimulus-seeking behaviour by examining the work of Pavlov, Berlyne, and others. Pavlov describes a reflex in man which brings about immediate response to the slightest changes in the world around him. Berlyne also describes an orienting and investigatory reflex which leads the organism to stimulus-seeking and knowledge-seeking situations. The orienting reflex can be extinguished through repeated exposure and makes the organism capable of selective attention.

Further, Ellis focuses on the Hebb A/S ratio and the Hunt I/E ratio. Hebb maintains that the brain has two major areas--the association area and the sensory-motor area with ascribed functions and that a ratio of these areas exists (A/S). Hunt similarly refers to the portion of the brain that concerns itself with neural events that arise internally or intrinsically and that which concerns itself with the extrinsic or external neural events, and further maintains that an I/E ratio exists. As the A/S or I/E ratio increases, the rigidity of behaviour decreases, and the capacity for new behaviours increases. Therefore, as memory power, associations and intrinsic functioning increase, rigid behaviour declines, survival and support type behaviours decline, and more creative functioning can occur. All vertebrates can be placed on continua in order of their A/S ratio.

Ellis (1973) feels that "pure play can occur only when all

extrinsic consequences are eliminated and the behaviour is driven solely by intrinsic motivation" (p. 110). Is pure play ever possible and can an organism ever optimize arousal?

Cognitive Play Literature

Another major body of literature that includes descriptions of play is the cognitive based literature. Piaget's theory of play, which parallels his theory of development, has been prominent in the cognitive literature. Others who have attempted to explain play in similar terms have been the Russian psychologists El'Konin and Vygotsky, Bruner, and James Britton.

The Piagetian theory is discussed first, as it appears to be the most fully developed of the cognitive views.

Piagetian View of Play

In reviewing the work of Jean Piaget, Flavell (1963) argued that, from Piaget's point of view, children play and behave in ways determined by the structure of their thinking or cognitive processes. The basic structure is inherited, but develops fully through interaction with the environment. Play takes place in the mind with body involvement in the processes, in the effects and in the input for further thought.

The child at first cannot differentiate between the self and the environment. Through sensory input and the few responses available to him, the child develops sequences of actions Piaget calls "schemas." Through interactions with his body, his surroundings and schema development, the child begins to differentiate between self and environment. "Assimilation" represents the integration of externally

produced data with existing schemas. "Accommodation" occurs when old schemas are no longer adequate and environmental stimuli demand new reactions.

Adaptive intelligence grows through a combination of assimilation and accommodation, with a constant fluctuating of assimilation and accommodation with a movement toward equilibrium or intelligent adaptation.

"Play begins between assimilation and accommodation" (Piaget, 1962, p. 162). It is a predominance of assimilation and no longer an equilibrium between the two functions. Piaget looks at imitation, the other state of imbalance as predominantly accommodation. Flavell (1963) explains this idea aptly, "in play the primary concern is to adapt reality to the self (assimilation), in imitation the paramount object is to adapt the self to reality (accommodation)" (p. 66).

Piaget sees play as children's primitive intellectual investigations and the ego's assimilation of reality. Piaget classifies children's play and games in terms of these structures and degrees of mental complexity. His three play stages correspond to his three forms of intelligence. Briefly it appears as:

Forms of Intelligence		Stages of Play
sensorimotor	⟶	Practise games
representational	⟶	Symbol games
reflective	⟶	Games with rules

Practise play. Most behaviours in the sensorimotor period have the potential for becoming play when they are repeated primarily for functional pleasure. Repetition of already acquired actions for mere pleasure of repetition marks the beginning of practise play. Here,

existing schemas are consolidated rather than extinguished through disuse. Assimilation generalizations are said to exist when novel stimuli evoke the same responses as previously known stimuli. Differentiation becomes possible, reflex actions become circular reactions, existing response patterns are strengthened, extended and generalized. Schemas have developed and the child is aware of environmental consequences of his actions. He can become selective in responses and repeat actions. Practise play occurs whenever a new skill is required and can be divided into "exploring play as a reaction to relatively novel stimulus patterns, manipulative play which reproduces itself whatever changes there may be; and repetition or repetition with variation" (Millar, 1968, p. 108).

Symbolic play. The second stage is that of symbolic play, a world of construction and make-believe. Piaget looks at the child's ability to pretend as the transition from sensorymotor play or repetition for pleasure to symbolic representation. Symbolic play, as a process of assimilation, organizes and repeats schemas in terms of previously acquired images and symbols. This assimilation and consolidation of schemas, both cognitively and emotionally, can be seen in children's make-believe play. Here play and imitation occur almost concurrently with assimilation still predominant.

Accommodated schemas become internalized imitation. That is, images of important objects and events are formed and the child is capable of repetitions with variations as opposed to pure imitation. Actions become farther removed from the real situation. The child is able to use one object to represent another and can operate as if it were the real object. The symbol becomes a representation of and a

substitute for objects, actions and events. "Symbolic play is merely egocentric thought in its pure state" (Piaget, 1962, p. 166). It ensures ego continuity, enables the child to relive past experiences and to express his subjective egocentric feelings.

As the child matures his constructive make-believe play increases in quantity and quality because of the rapidly increasing number of schemas. Increases in experience induce elaboration of play themes and construction activity. Coordination and organization of present schemas occurs and the beginnings of a complex classification system develops; thus, the assimilating process or play begins to decrease. The consolidating and expressive functions of play are being replaced by adaptive intelligence and socialized language.

Games with rules. Games with rules can appear as early as ages four to seven, but generally appear in the Concrete Operations Stage from age seven to eleven. Games with rules "are the ludic activity of the socialised being. Just as the symbol replaces mere practise as soon as thought makes its appearance, so the rule replaces the symbol and integrates practise as soon as certain social relationships are formed and the question is to discover these relationships" (Piaget, 1962, p. 142).

"Play is more prevalent in children because the characteristic of all behaviours and all thought are less in equilibrium in the early stages of mental development than in the adult stage" (Piaget, 1962, p. 147).

In summary, Piaget views play as a derivative of and subordinate to the child's cognitive structure where practise play occurs in the sensorimotor period, where symbolic play marks the beginnings

of representational, egocentric thought, and games with rules represent reflective thinking.

El'Konin

El'Konin (1966), the Russian psychologist, views play as a precondition for internal thought. At the end of childhood, play does not disappear, it simply becomes internalized. He emphasizes the formative role of both language and adult example in the development of children's play. Operating from a Piagetian base, El'Konin describes a causal relationship between play and the social environment.

He focuses on the importance of symbolism in play. Herron and Sutton-Smith (1971) state that,

> In extensive symbolic play at least two forms of symbolization occur: first, the assumption by the child of the role itself (the child identifies himself with another person) and the fulfillment of play activities which substitute for and consequently, symbolize real activities; second, the substitution, or symbolization, of one object for another. (p. 222)

El'Konin discusses various levels of symbolization. Socially developed methods of using definite objects are the preconditions for the "origin of role." In the beginning, the child's activities are connected with the definite objects and are not transferable. Later actions are reproduced with different playthings, the range of object activities expands and the extent of transfer widens. Generalization begins and the child is able to separate activity from objects (feeding without plates and dishes, or just the feeding of food without food).

Then objects begin to be used as substitutes for one another. A block becomes a piece of soap. The sphere of object substitutes widens and activities become connected with the person who produced it. The child identifies and compares his activities to those of another

person and the activities are then reoriented from object to adult. Thus dramatic play begins, and the child relies on the symbols of objects and language to engage in role playing with or without the object present. Language is essential for the transfer of meaning from one object to another in play, a process which is essentially one of concept formation.

In summary, El'Konin believes play is epiphenomenal to cognitive development. Adult example and language development change the structure of play which, in turn, leads to directed internal thought.

Cultural Theory--Huizinga

Huizinga (1938) views play in reference to the total existence of man and has said that "civilization arises and unfolds in and as play" (Foreword). "Myth and ritual the great instinctive forces of civilized life have their origin: law and order, commerce and profit, craft and art, poetry, wisdom and science. All are rooted in the primaeval soil of play" (Huizinga, 1938, p. 5). Much of man's behaviour can be viewed as play. What begins as child's play continues into adult life in the form of rituals, ceremony and into the very essence of culture.

He defines play in terms of its characteristics (1938):

> Play is a voluntary activity or occupation executed within certain fixed limits of time and place, according to rules freely accepted but absolutely binding, having its aim in itself and accompanied by a feeling of tension, joy and the consciousness that it is "different" from "ordinary life." (p. 28)

Play, like ritual, is an action which has its roots in but is above the necessities and seriousness of everyday life. Culture,

itself, bears the character of play.

Play promotes the formation of social groupings. It has two basic functions or intents which are as Huizinga (1938) states, "a contest for something or a representation of something. These two functions can unite in such a way that the game 'represents' a contest or becomes a contest for the best representation of something" (p. 13). Play is the stepping out of a common reality into a higher order--becoming a fireman, a wicked witch or a space pilot, the child actually believes he is such a thing without losing his consciousness of "ordinary reality."

Shifts from the children's play to the adults' mental play is a shift toward a symbolic, mystical representation of thought. Huizinga suggests this may be the core of religion. "Ritual play is essentially no different from one of the higher forms of common child-play or indeed animal-play" (Huizinga, 1938, p. 17).

"Ritual is a means of representation, dramatic performances and imaginative actualizations of a vicarious nature" (Huizinga, 1938, p. 15), which take the form of holidays and festivals which play or replay the order of nature--the changing seasons; cosmic events; birth, life, and death; the growth and ripening of crops; and celebrate acts of consecration, sacrifice, and initiation.

In summary, ritual and play are similar in nature and origin. Both involve "symbolic correspondence" and image-making or imagination.

Others' Play Related Literature

Many other educators have attempted to explain play in terms of their works. James Britton (1971) views play "as an area of free

activity lying between the world of shared and verifiable experience and the world of inner necessity--a 'third area'" (p. 43). The purpose of play or activity in this "third area" is to relate inner necessity to the demands of the external world. The more images involved in inner instinctual needs that enter play, the more the individual engages and relates to images from the world of shared experiences. Some activities will take up more of the demands of the inner world and its activities at this end of the scale that Britton terms "fantasy."

Vygotsky (1966) looks at play as "the leading source of development in preschool years" (p. 6), and it is essentially through play activity that a child moves forward. He views play as a cognitive process, relying on internal tendencies, motives and incentives and not external incentives. Imagination is play in action. Through play the child creates new relationships between the semantic and visible field, moreover between thought and action. Thought becomes separate from objects in play activity and actions begin to arise from ideas not things. As the child enters school, play becomes more limited and is converted to an internal process. Play facilitates language development. Play becomes predominantly athletic-game like, and bound by compulsory rules.

Bruner (1975) views play as "a precursor of adult competence" (p. 81). It is the principle business of childhood--a vehicle of improvisation and combination. Play is the first carrier of a rule system through which cultural restraints replace childish impulse. Bruner (1972) views play as serving several central and vital functions. Firstly, play minimizes the consequences of one's actions and,

secondly, it provides an excellent opportunity to try combinations of behaviour never before attempted. It reduces the pressures of impulse and incentive and makes it possible for intrinsic learning to begin. There is reward in doing things in the sphere of fun.

Bruner (1976) further describes the essence of play as means over end--the process takes over the product. Its voluntary free nature lifts problem-solving frustration. Play reduces the risk of failure. Another essential characteristic of play is "its invitation to the possibilities inherent in things and events. It's the freedom to notice seemingly irrelevant detail" (Sylva, Bruner & Genova, 1976, p. 244).

Klinger (1971, p. 20) views play as a behaviour relatively free from association with direct satisfaction of biological needs and relatively free from standards set up by society. The standards of play are established by the player. Play is "autotelic"--has a purpose in itself and does not depend on the need to attain extrinsic goals. Play is composed of pre-established schemas or behaviour segments and these are applied to new objects and situations. Klinger (1969) implies that the structure of fantasy parallels the structure of play in origin, development, and characteristics.

Summary

This chapter has reviewed the literature that deals with children's play. Many investigators from diverse backgrounds have attempted to explain the phenomenon called play.

Some attempts have been made at definitions but few fully operational definitions have been formulated. Very few writers have

attempted to systematically analyze the implied play constructs embedded in the various theories.

Chapter III

ANALYSIS OF PLAY LITERATURE

The play investigators, despite their diverse points of view, discuss similar ideas. This chapter presents an analysis of the similarities and differences across the theories and attempts to delineate the components of play.

The framework constructed for this analysis included four main categories. The four categories are defined and the literature examined within each category.

Descriptive Categories

In describing their thoughts regarding play, writers appear to be focusing on four main ideas: the mental components or structure of play, the ways in which play functions in the context of overall human development, the actual form or content of play activities, and the characteristics of the play behaviour or describing the nature of play activity. These four themes were used as categories within which to describe and compare the mainstream play theories.

Structure refers primarily to the internal components of the play act--the mental components and their interrelationships, sequencing, and organization. Structure involves looking at the cognitive activity during a play behaviour, the development of perception and, finally, how conceptions are formed in play.

Piaget refers to these mental processes as "schemas." The schema is an internal mental organization of particular actions linked to a behaviour pattern. Similar behaviour patterns become linked to form highly integrated units, then become complex behaviour sequences and eventually cognitive operation systems. The category "structures of play" refers to this internal cognitive organization of play.

The "function of play" category refers to the "why" of play. The focus here is on the purposes play serves in overall development. Some of the play literature deals specifically with play as it facilitates various facets of development. For example, Freud believes children play to reduce anxiety; that is, it serves to reduce the seriousness of unpleasant experiences. Others describe play as it functions to enhance language development, creativity, and other cognitive and social attributes.

The "content of play" category refers to the visible "what and when" of children's play. Many investigators have focused on the descriptions of actual play happenings, sequences of behaviours and when they occur. The focus here is primarily on social interactions, types and levels of play behaviour, peer relationships, and the developmental patterns of play.

The fourth category, "characteristics of play behaviour," includes discussions of the general essential features of play behaviour, more specifically the nature of this phenomenon termed play. For example, play is pleasure oriented, it is voluntary and repetitive. Frequently investigators discuss characteristics in conjunction with one or more of the other categories.

Structural Features of Play

Writers differ in the degree to which they concern themselves with describing the structural features of play. The fullest account of the structural aspects comes from Jean Piaget (1962) in his book Play, Dreams and Imitations. As has been mentioned in the previous chapter, Piaget describes play in terms of his theory of cognitive development, more specifically in terms of the development of representational thought. Play which is primarily assimilation characterizes the beginnings of representation or concept development. Sensorymotor play sets the stage for representation, followed by symbolic and imaginative play. Representational thought or symbolic activity begins when there is "simultaneous differentiation and coordination between the 'signified' and the 'signifiers'" (Piaget, 1962, p. 3); that is, symbol activity or representation begins when there is a simultaneous differentiating and coordinating of the symbol and the activity representing the symbol. Differentiations are provided by imitation which in turn provides the "mental image." Play provides the meanings. Both imitation and play, or "mental images" and "meanings" are required for a representation to occur.

Piaget maintains that language appears as a system of collective signs, and that through these signs and sensorimotor schemas concepts are formed.

Piaget further suggests that there should be continuity between the sensorimotor experience and the representation, if representations are to interact and related concepts formed. What if a child has few sensorimotor schemas? How is language development affected? Are

sensorimotor schemas the basis for all of our concept development? Piaget's thoughts have left many unanswered questions.

El'Konin, Britton, and Vygotsky, through their investigations, have dealt with the structural aspects of play. Each focuses on different features of structure.

El'Konin examines play in terms of two forms of symbolism. Firstly, the child is identifying himself with another person or assuming a role. The second type of symbolic activity that occurs is the substitution of objects and activities for real things and situations. El'Konin, with the aid of other Soviet research, describes the process of identification and substitution in play. Language becomes an essential part of this process enabling transfer of meaning from one object to another. This transfer of meaning is concept formation.

Britton views play as assimilative. During play, representations are improvised for reasons other than establishing their correspondence to the facts of our experience. Play is a time when inner needs freely combine with established representations and the connections and extensions of representations are enacted. Britton touches on structure of play in his writing when he focuses on fantasy and imaginative play structures.

Vygotsky described the structures of play as a linking of the child's semantic and visible fields. In play activity, thought is separated from objects, and actions begin to take shape from ideas rather than objects. For example, a piece of wood becomes a car or an airplane. Rules of actions are determined by ideas more so than the actual objects. This change in mental structure is a very gradual

one. The preschool years are a transitional period where the real world begins to take on sense and meaning. Vygotsky (1966) sees play as a structure which distances the child's thoughts or concepts from the objects of his thoughts.

Sutton-Smith, Ellis, Erikson, Bruner, and Klinger all acknowledge the structure of play, but do not present succinct accounts of structural components.

Sutton-Smith basically uses descriptive concepts drawn from his theory of games to explain play. The structural descriptions in his theory reflect a Piagetian influence but do not explicitly explain the play structures. He suggests internal processes are occurring during a play sequence and attempts to explain play in terms of disequilibrium. That is, the intention of a play action is to do something different, counteracting or reversing the normal flow of events. Structural changes occur during the acting and counteracting processes during play and later in games. The disequilibrium enables the child to engage in object substitution and role-playing, but the actual mechanisms of this process Sutton-Smith does not discuss. His theory deals more fully with the functions, content, and characteristics of play.

Ellis also makes some attempt at explaining the structure of play in terms of the Hebb-Hunt ratios, but he deals primarily with the motivation of play behaviour.

In summary, Piaget appears to have developed the most elaborate descriptions of the structures of play.

The Functions of Play

The vast majority of the theorists who discuss children's play deal in one way or another with functions that play serves in the child's development.

Erikson, Freud, and the other psychoanalysts, discuss the motivation for play. They identify the motives behind play behaviour as that of ego mastery, inner need satisfactory solving of conflicts and disorganizing emotions, and overall a practise on intermediate reality.

Their explanations centre on the functions of play with some reference to content and characteristics.

The historical theories of play also explain it in terms of function. People play to relax, to rid themselves of surplus energy, or to compensate for unsatisfied needs. The motive behind play behaviour was disclosed but few explanations of play structure included.

Play appears to fulfill many diverse functions. Arnaud (1974), drawing from many play theorists, proposes several functions of play:

1. Energizes and organizes cognitive learning.
2. Lessens anxiety.
3. Lessens egocentricity.
4. Leads to mastery of abstract symbolism.
5. Aids physical development.
6. Leads to innovation-creativity.

Arnaud's functions and those proposed by others can be categorized into the cognitive functions, the affective functions, and

the social functions. The psychomotor-physical development function is not considered as a separate function, but nevertheless remains an important one.

The three major functions of play may be represented in the following way:

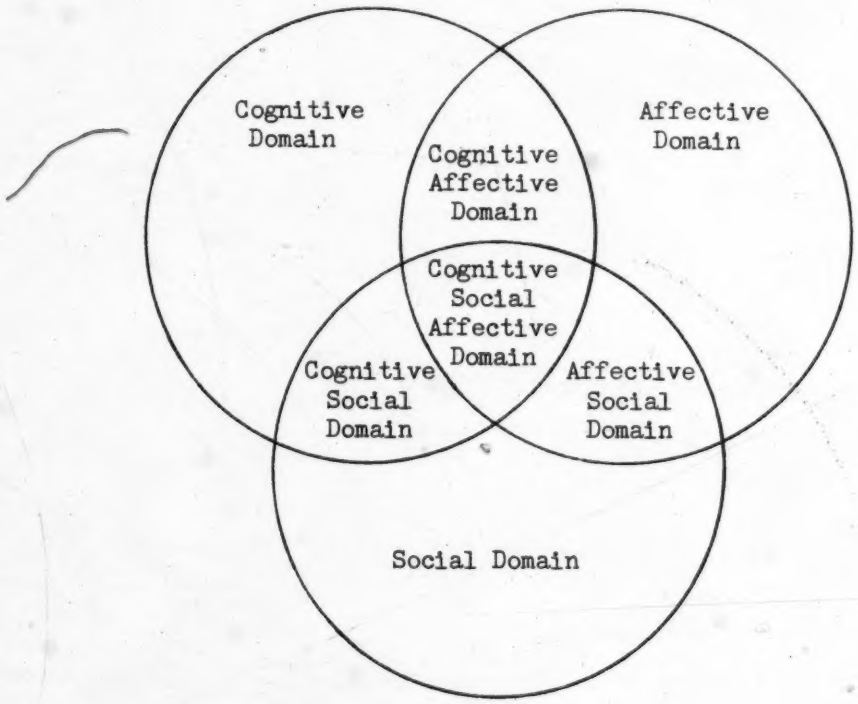

Figure 1. The functions of play.

There is a very fine distinction between some of the overlapping areas, but play activities can be categorized as serving a particular function. Cognitive function includes role of play in intellectual development. The affective domain includes role of play in emotional development with reference to internal instincts, drives, feelings, and intentions. The social function in itself includes the cognitive and affective domains of play but involves a focus on the external

interactive influence of play. There is often a fine difference between the various functions.

Following is a breakdown of the ways in which the major theorists describe the functions of play:

Cognitive functions of play.

1. Play allows continuity of thought symbol formation (Piaget).
2. Play develops symbolism (El'Konin).
3. Play serves an assimilating function (Britton).
4. Play serves the image-making process (Huizinga).

Cognitively, play functions to facilitate intellectual growth.

Affective function.

1. Play is repetition for sheer pleasure (Piaget).
2. Play serves the pleasure principle and essentially wish fulfillment (Vygotsky).
3. Play satisfies drives, solves conflicts and reduces the seriousness of unpleasant events (Freud and psychoanalysts).
4. Play is escapism (Britton).
5. Play deals with unconscious conflicts, sexual interests, withdrawal from defense against anxiety, aggression. People play for pleasure and to reduce unpleasant effects (Freud and psychoanalysts).

Social function.

1. Play assists the individual in adapting to the social world of his elders (Piaget).
2. Play is a means of stimulating human interaction (El'Konin).
3. Play is a means of stimulating social relationships which exist with adults (El'Konin).

Play places the individual in a social context which facilitates

this growth.

Cognitive-social.

1. Play develops speech, it emancipates the word from the thing (El'Konin).

2. Play facilitates language mastery (Bruner).

3. Play facilitates speech development. It emancipates meaning from objects and actions (Vygotsky).

Play aids speech development.

Cognitive-affective.

1. Play elevates the level of arousal to the optimal (Ellis).

2. Play reduces the pressure from having to achieve (Bruner).

3. Play reflects current focal concerns and yields new solutions to old problems (Klinger).

4. Play is novelty training (Sutton-Smith).

5. Play facilitates creativity (Sutton-Smith).

Play establishes within the individual a repertoire of responses with which to attend to new stimuli. Play as an open-ended process allows a mingling of the cognitive and the affective domains.

Social-affective.

1. Play reverses the role of the passive recipient of a strong unpleasant event to the active role and purging the event on someone else (Freud and psychoanalysts).

2. Play deals with withdrawal from defense against fear or risk of competitions, phobias, aggression, or identification with aggressors (Piaget).

Play establishes the individual as a social being.

Cognitive-social-affective.

1. Individuals have a need to demonstrate a capacity to control or produce effects in the environment (competence/effectance motivation) (White).

2. Play is a function of the ego, an attempt to synchronize the bodily and social processes with the self--to hallucinate ego mastery (Erikson).

3. In play the child relates for himself inner necessity with the demands of the external world (Britton).

4. Play is a test of cognitive, affective and connotative powers (Sutton-Smith).

Play functions to develop a competent effective individual.

The functions of play are obviously numerous and overlapping. At any point in time it is difficult to say that a play act fulfills only one function but it appears that play serves several simultaneously.

The functions set down by theorists are varied in their scope, some encompassing total development--cognitive, social and affective, and others focusing on one aspect of function. Piaget and Sutton-Smith delineate the fullest range of play functions. Others like Vygotsky, Britton, El'Konin, Bruner, Ellis, appear to acknowledge the full range of functions but focus more extensively on functions central to their theories. Freud and many of the classic play theorists view play in terms of narrower functions. However, despite their differences, most writers describe play as functioning to enhance development not as simply a manifestation of development.

The Content of Play

Many play investigations have focused on the actual play

happenings and sequences of play behaviour. These descriptions reveal developmental trends in children's play. Documented accounts of behaviour sequences have served as the foundation for structural and functional play explanations as well as revealing trends in the stages and ages of children's play.

Following is a summary of the various views on the stages of development in children's play.

Jean Piaget. A major contribution comes from Jean Piaget, who through the observation of his children has established three classifications of play--practise play, symbolic play and games with rules. Within these three major areas he has defined further subdivisions in the developmental process. These further stages coincide with his developmental stages of intelligence. Briefly the stages appear as:

Practise play. Begins in the first months.

1. STAGE I. Sensorimotor Reflex Play. Exercise ready made sensorimotor schemata, e.g., sucking a bottle, breast.

2. STAGE II. Primary Circular Reactions. Reactions are centered on the child's own body. Some differentiation begins and sporadic imitation begins, e.g., intentional thumb-sucking.

3. STAGE III. Secondary Circular Reactions. Reactions are directed to the manipulation of surrounding objects with increased deliberation, repetition for pleasure. The child systematically imitates sounds and movements he has heard and seen.

4. STAGE IV. Coordination of Secondary Schemas. Known schemas are applied to new situations and mobility of schemas allow formation of ludic combinations without any effort at adaptation. Ritualization is common during this period, e.g., before going to sleep

the child goes through ritual of all the usual actions--lies down, sucks thumb, etc.

5. STAGE V. Tertiary Circular Reactions. The child experiments to see the results. Often in play a child combines unrelated gestures without really trying to experiment and subsequently repeats these gestures as a ritual and makes a game out of them. Rituals become games almost immediately and show a greater variety of combinations and a movement to symbolism.

Symbolic play. Second year of life.

6. STAGE VI. Emergence of Symbolization. The ludic symbol is dissociated from ritual and takes the form of symbolic schemas. Schemas are dissociated from the real objects, e.g., pretends to eat pieces of paper.

Games with rules. (Ages 4 - 7 and mainly 7 - 11) This implies social or inter-individual relationships. The rule replaces the symbol and integrates practise as soon as certain social relationships are formed.

Practise play and sensorimotor practise games begin in the first few months of life and occur at all ages but predominantly occur between stages II to V of preverbal development. Sensorimotor games are essentially of short duration. Behaviours like throwing, pushing, filling, putting together and breaking apart are repeated for functional practise and pleasure.

Symbolic play, in contrast to practise play which involves no specific ludic representational structure, implies representation of an absent object, make-believe representation. Symbolic play begins in the second year and predominates until about four.

Games with rules rarely occur before age four, can be seen between four and seven, and predominate in the seven to eleven age range.

Piaget's breakdown of play and imitation has served as a base for others attempting to categorize play development. One such theory is that of El'Konin (1969).

El'Konin. He proposes three major stages of play in the development of symbolism. They are as follows:

1. STAGE I. (0 - 2) A range of object activity develops and some transfer begins. Play activities copy object role with one seen in real life, e.g., a glass is to drink so doll drinks from the glass.

2. STAGE II. (2+ years) The child separates activity from object during the reproduction of the activity. The child substitutes objects for each other, e.g., a wooden block becomes a glass of water.

3. STAGE III. (3+ years) The child begins connecting activity to a person. He begins to identify his actions with that of an adult, e.g., the child becomes the mother giving the baby a glass of milk. Role playing begins.

Erikson. Erikson (1950) proposes that play is not only a behavioural phenomenon, it is also a developmental one with its own sequences which are as follows:

1. Autocosmic play. Play begins and centres on the child's own body. It is a repetition of sensual and kinesthetic sensations and vocalizations.

2. Microcosmic play. Here play extends to the world of small manageable toys. Through construction and reconstruction the child masters small toys and moves on to more sophisticated objects.

3. Macrocosmic play. (Nursery school age) This is the world shared with others. The fantasy dimension begins--a chair becomes a horsie and others are treated as things.

In each of Erikson's spheres children are endowed with their own sense of reality and mastery. If mastery in the first sphere is incomplete, then the second can never be mastered effectively. Failures are redeemed as the child "plays out" painful events. From play emerges a child's ego identity and self-esteem. Erikson views play as a valuable therapy for the traumatized child.

Smilansky. Further efforts at describing the developmental sequence of play behaviour are delineated by Smilansky (1968). She maintains the stages overlap to a great extent, some behaviours parallel others even into adulthood but at any given time one stage of play behaviour dominates. Briefly her stages are as follows:

1. Functional play. This first form of play includes simple repetitive muscle movements with or without objects. Actions, objects and utterances are imitated, manipulated and explored.

2. Constructive play. Here is a move from functional activity or play to creative play. Through manipulation of the form comes formation.

3. Dramatic play. In this next stage of symbolic play there occurs the substitution of an imaginary situation to satisfy the child's personal wishes and needs. Budding social awareness brings about role playing.

4. Games with rules. Smilansky maintains this is the highest stage reached in play development. Here one's behaviour is controlled and adjusted to accepted, prearranged rules.

Smilansky identifies dramatic or sociodramatic play as a high level of development.

Iwanga. Iwanga (1973) in a study of the interpersonal play structures of young children discusses the typology of the structures which was determined by the children's play interaction with peers. They are as follows:

1. Independent structure. (2 years) This is solitary play where the child initiated and engaged in a play activity which included only himself as player.

2. Parallel structure. (3 year olds) Two or more children are engaged in an activity where roles are enacted independently but while the children were in close proximity.

3. Complementary structure. (4 year olds) Here there is some cooperation between children who engage in a similar play activity with differentiated roles but the roles are enacted independently of each other during the course of the play.

4. Integrative structure. (5 year olds) Here roles are assigned and enacted interactively. There is increased cooperation; visual, verbal, and physical contacts; and an adjusting of one's own behaviour to respond to the shifts in the companion's behaviour.

The study suggests that peer play may be important to the development of role-taking behaviour.

Sutton-Smith. Sutton-Smith (1970) describes play in terms of four processes of knowing the world: exploration, imitation, testing, and construction. He explores each in terms of development through the ages of two to five and matches each mode to a theory of truth and a type of learning. Each mode is a type of mastery and leads to a more

sophisticated mode of knowing. Simply it appears as:

Theory of Truth	⟵	Type of Learning	⟵	Mode of Play	⟶	More Complex Mastery
Logical Positivism	⟵	causal	⟵	Exploration	⟶	territorial or scientific exploration
Correspondence	⟵	copyist	⟵	Imitation	⟶	contesting
Pragmatism	⟵	predictive	⟵	Testing	⟶	sociodramatic
Coherence	⟵	synthetic	⟵	Construction	⟶	model building

In Sutton-Smith's (1970) synopsis of the various modes in the second year of life (12 to 24 months) he describes the behaviour as extremely active exploring, a period of testing everything that can be reached. Partial imitation and construction appears during this period.

During the third year (25 to 36 months), exploration and testing are more specific and efficient. Imitation becomes more pronounced. Routines become rituals, novel construction begins and fantasy becomes vivid.

In the fourth year, exploration and testing have stabilized. Imitations are absorbed in larger group play and construction and the product become important. Play becomes highly imaginative and the responses of others are important.

The fifth year sees the child at his peak of imaginative behaviour and his construction games reach a peak of elaboration. Competitiveness is extended into conventional games.

Sutton-Smith (1970), through direct observations, identifies

types of exploration, imitation, testing, construction, and typical games that occur at each age level. He also discusses social play development patterns at the various age levels.

In summary, it appears that the anecdotal records of children's play behaviour can be organized into developmental levels or stages, providing the beginning of a developmental theory of children's play.

The Characteristics of Play

Theories of play take root from some basic assumptions. These assumptions may be stated explicitly or may be implied by the theorists.

The following is a cumulative summary of the major definitional characteristics of or assumptions about children's play. Theorists describe play as:

1. pleasure oriented (Piaget, Ellis, Huizinga, Freud, Erikson),
2. spontaneous (Piaget, Ellis, Huizinga),
3. voluntary (Bruner, Huizinga, Sutton-Smith, Britton),
4. free (Britton, Ellis, Bruner, Huizinga),
5. adopting the line of least resistance (Vygotsky),
6. containing its own course and meaning (Huizinga),
7. purposeful (Vygotsky),
8. having rules (Vygotsky),
9. having order, creating order (Huizinga),
10. secluded (Huizinga),
11. occurring within limits of time and place (Huizinga),
12. not real or ordinary (Huizinga),
13. timeless (Ellis),
14. lacking organization (Piaget),

15. repetitive (Sutton-Smith),
16. exploratory (Sutton-Smith),
17. active (Sutton-Smith),
18. novel (Sutton-Smith),
19. flexible (Sutton-Smith),
20. having flow (Sutton-Smith),
21. optimistic (Sutton-Smith),
22. social (Sutton-Smith),
23. imitative (Britton, El'Konin),
24. transitional (El'Konin),
25. overmotivating (Piaget),
26. means over end (Bruner),
27. lessening the risk of failure (Bruner).

Playfulness possesses unique features or characteristics. Not all of the above characteristics can be identified in every play activity. Rather, combinations of the above features tend to characterize play behaviour as compared with non-play behaviour. The most predominant characteristic of play appears to be the aspect of freedom. Theorists discuss play as free choice, freedom from conflict, adopting the line of least resistance, spontaneous and voluntary. All these involve some sense of freedom.

Other prominent characteristics are those of play as active, imitative, purposeful, social, yet very personal in its course and meaning.

Some characteristics tend to be contradictory, but can in themselves describe certain play behaviours. For example, certain play happenings occur with limits of time while others may be timeless, but

an overall feature of play appears to be its open-endedness.

In summary, the characteristics of play are readily identifiable and overlapping from theory to theory. Huizinga offers a notable theory regarding the nature of play and its significance. Piaget and Sutton-Smith also offer lucid explanations of play's core characteristics.

Summary

The review of play structure would suggest that play is primarily cognitive in make-up, an assimilative process characterizing the development of representational thought. Play provides for the development of sensorimotor schemas which may be the basis for symbolic conceptual development.

The many functions of play, despite their differences, reveal play as enhancing cognitive, social, and affective development, not as simply a manifestation of this development.

Descriptions of the content of play suggest that play is a developmental process passing through various stages. Typical developmental sequences of cognitive symbolic development can be identified as well as social play patterns and levels of cognitive, affective, and social play.

The review of play characteristics reveals assumptions specific to the play process. These assumptions or characteristics are closely associated with the structural, functional, and the content explanations of play.

The four major categories used in this chapter have been further discussed in Chapter IV in light of empirical research.

Chapter IV

RELATED PLAY RESEARCH

As has been previously discussed, play has often been reputed to be an indefinable behaviour. Despite inconsistencies in the definitions of play behaviour, many are able to agree on its identification. Certain behaviours can be termed "play" or "playful," making possible observational and other empirical research.

This chapter is an examination of the major experimental and correlational research conducted since 1970. Only major studies prior to 1970 have been included.

The researchers have been diverse in their scope. Some have focused on the natural role of play in primate ethology, while others have developed sociological, epistemological, psychological, and anthropological studies of children's play. Examinations have focused on levels of play as they correlate with creativity, problem-solving and language behaviour; play rule systems; play and how it enhances various cognitive and affective behaviours. As the research on play is in its infancy, many unanswered questions still remain.

This chapter has attempted to identify generalizations or areas which have been substantiated or refuted through research and to identify unresearched areas. The analysis of the research has been conducted using the same four categories used in the previous chapter; structure, function, content, and characteristics.

Research Relevant to the Structure of Play

The research evidence indicates that play is likely to be closely linked to cognitive functioning and organization. Jean Piaget, in the most elaborate theory on play structure, indicates there is a link. Is what we term play then not simply cognitive development? Are the theories attempting to explain play simply expounding on cognitive development, cognitive organizing, or schemas of mental structuring?

The answers are inconclusive and the research on the structure of play sparse but there is some evidence to indicate that play is linked to cognitive functioning.

Play has been described as an activity of random order. Bruner (1976) views play as "characterized by a recognizable rule structure" (p. 15). Garvey's (1974) research supports this notion. She found rule systems within children's play and found the children able to recognize play themes, expectations of the play situation, and able to respond to implied play sets or rules. Burridge (1976) found in a study of the Tangu people of New Guinea a very formal rule structure in the cooperative play of the children and adults. Bruner (1976), in an examination of Peekaboo play in infant children, discovered there was a set of rules learned within a range of variations. The child recognizes "the framework for the pleasurable expression of a new behaviour and allows the new behaviour to be quickly incorporated into a highly skilled rule-governing pattern" (Bruner, 1976, p. 284).

As the child becomes sensitized to the rules of play he begins

symbolic functioning. Further play research has given us insight into symbolic functioning. Fenson, Kagan, Kearsley, and Zelazo (1976), and Lowe (1975) have focused on the emergence of symbolic play in infants. They found children tend to move from simple relational play (a cup belongs to a saucer), to symbolic play (a cup is used for drinking), to sequential play. Play appears to give us insight into a child's symbolic functioning. The development of symbolism early in the second year of a child's life dramatically alters the nature of play. Soviet research with deaf-mute children revealed an association between speech and symbolism (Herron & Sutton-Smith, 1971). "Children who did not possess speech could not substitute one object for another in play and as speech was mastered, the transfer of the meaning from one object to another was greatly facilitated" (Herron & Sutton-Smith, 1971, p. 228).

Lowe (1975) revealed that the emergence of symbolic play coincided with that of verbal language. Lowe maintains that language and symbolic play appear to be the manifestation of the same cognitive structure: the development of representation.

Goodson and Greenfield (1975), in a descriptive study, suggest a relationship between play and linguistic development exists. They suggest that the acquiring of complex sentence structures is developmental and parallel to structural principles in play behaviour. In construction play, children use various modes of cognitive organization similar to those used in language structure.

Piaget (1962) alludes to the reciprocal relationship between conceptual representations and language. He maintains that the actual extent of a conceptual development is unknown to us--language being one expression and play another expression.

Other correlational and experimental play studies reveal functional relationships between play and IQ score, classification skills, reading level, creativity, problem-solving, and competence rating. These studies, because they reveal information on play function, are more fully discussed in the following section.

The evidence as to whether play represents the pre-existing cognitive status of the individual or whether it contributes to that status is still somewhat inconclusive and in need for further study. A greater percentage of the play research has examined the role of play as it enhances or contributes to cognitive development.

Research Relevant to the Functions of Play

Much of the research on play reveals a strong functional relationship between play and other areas of development. Play appears to facilitate, and enhance particular developmental areas such as language, creativity, problem-solving, and other cognitive areas. There also appears to be a relationship between play and social-emotional development.

The research that applies to the function of play is descriptive, correlational, and experimental, each allowing different implications. Correlational research reveals a relationship between variables but does not indicate the causal natures of the relationship. If a high correlation between levels of play and reading achievement exists, it can be concluded that the variables are related, but cannot be said that a high level of play is the direct cause of high reading achievement. Experimental research better enables one to conclude that causal relationships exist between variables.

Following is an examination of the play research in terms of function and its relationship to several areas of development--language, creativity, problem-solving, IQ, perception, sequencing, classifying, reading achievement, social and emotional development.

Play and Language Development

The relationship between play and language development is still relatively unexplored, but there is some research that indicates that play is instrumental to the development of language.

Smilansky (1968) and Lovinger (1974) in experimental studies have given us evidence that level of play affects language power.

Smilansky (1968), while observing "disadvantaged" preschool children for evidence of symbolic play, noted a lack of role-playing, dramatic play and imaginative activity. Four experimental groups were designed to provide for the learning experiences required for socio-dramatic play: one group was taught specific play themes in an intensive enrichment program; another group was taught play techniques during teacher intervention in ongoing play sequences; a third group received both thematic and technique training; and the control group received no special treatment. The first group did not improve, the second and the third improved significantly, with the most dramatic changes occurring within the third group. Results indicate that play tutoring not only increased play level and development of symbolic play but also increased the amounts and quality of language. Freyburg's (1973) findings support Smilansky: enhanced imaginative play produced richer verbal communication, longer and more complex sentence formation, and more sensitivity to the communication cues of others.

Lovinger (1974) also corroborated Smilansky's findings in her study. She divided preschool children into two groups; the experimental group receiving play tutoring for one hour per day for twenty-five weeks. The intervention included enriching natural play, extending role-playing experiences, and creating new play situations. The experimental group significantly increased their level of cognitive play, increased their use of language, and scored higher on a verbal expression scale.

This suggests that play facilitates language development and that children's play environments can be structured to enhance such development.

Play and Creativity

Many writers (Almy, 1967; Klinger, 1969; Sutton-Smith, 1971; Wallach, 1970; Singer, 1973) have indicated that a connection between play and creativity exists. Research supports this notion.

Lieberman (1965) found that teachers' ratings of children's playfulness correlated significantly with their ability on several creative tasks.

Sutton-Smith (1967) maintains that playfulness and creativity are structurally similar. Wallach and Kogan (1965) discovered that when creativity tests were given in pressure-free, game-like situations the results were different from those obtained on conventional IQ tests. They concluded creativity is manifested and facilitated in a playful atmosphere.

Dansky and Silverman (1973) revealed that a play situation produced significantly more non-standard responses for various tests

than imitation and control situations.

Feitelson and Ross (1973), in an experimental study, found that changes in levels of play influenced creative development. Preschool youngsters, low in cognitive play, were randomly assigned to four treatment groups: one group received tutoring in thematic play; another was exposed to a supervised play area; a third received tutoring in playing musical instruments; and the control group received no treatment. Pre and post-test analysis revealed that the play tutored group increased not only their level of play but also gained significantly on creativity tests. All other groups showed no change. This strongly suggests that play is instrumental to the child's growth and development of creativity.

Corrine Hutt (1971) designed a supertoy for children 3 to 5 years old. Hutt rated the children on how inventive they were in their play. Four years later, when the children were 7 to 10, they were given several personality tests including one for creativity. The results revealed that the more inventive and exploratory the children had been in their earlier play with the supertoy, the higher were their creativity scores four years later. She also noted that the unexploring children were socially inactive and unforthcoming (Bruner, 1975).

Johnson (1976), in a correlational study, found a relationship between social make-believe play and divergent thinking. Thus there is evidence that opportunity for play affects developing creativity abilities and suggests there are also long-term effects.

Play and Problem-Solving

There is similarly strong research evidence to suggest that

play enhances problem-solving abilities.

Hartshorn and Brantley (1973), in an experimental study, found that children involved in a dramatic play program achieved higher scores on problem-solving tests. Rosen (1974) similarly reported improvement in problem-solving behaviour after socio-dramatic play tutoring.

Sylva, Bruner and Genova (1976) report studies in which prior play experience with problem-solving equipment enabled children to solve problems significantly better than children who had no prior play experience with the equipment.

More specifically, subjects were provided with three types of experience prior to the presentation of the stick-as-a-rake problem. The treatment conditions were: (1) adult demonstration with free play following; (2) observing the principle with adult only; and (3) no treatment. The various treatments not only revealed the previously mentioned results, but also revealed insight into problem-solving approaches and processes. The play-group children showed significantly more solutions than the no treatment group, they were eager to begin, continuous in their efforts and flexible in their hypotheses; whereas the children who merely observed demonstrated more of an all-or-nothing approach.

The play experience group demonstrated more goal-directed behaviour and they moved from simple to complex solutions while the control group chose solutions randomly. The play group tended to opt out less frequently than the other treatment groups. The second similar study revealed similar results.

Play appears to provide children with the opportunity and the

stimulus to explore roles, face demands of new situations and acquire knowledge which enhances the development of problem-solving abilities.

Play and Other Cognitive Abilities

Other research findings provide us with some evidence that play is related to other cognitive tasks such as IQ tests, perception tests, sequencing, classifying, reading achievement, and storytelling skills.

Borowitz, Hirsch, and Kostello (1970) found that children's competency ratings which included many cognitive tasks, correlated significantly with organization of play and quality of fantasy play. Sisson (1974) indicated similar findings.

Levenstein (1973) reports a study where mother-child dyads were involved in home play programs. The experimental group demonstrated a significant gain in general IQ and verbal IQ after being involved in verbally stimulating interaction and materials.

Saltz and Johnson (1974), in an experimental study, found that thematic fantasy training yielded a higher incidence of spontaneous socio-dramatic play, higher scores on IQ tests, superior scores on perception tests, and superior performance on story sequence memory tasks and storytelling skills.

Clune (1973) reports a significant correlation between quality of play and performance on an IQ test.

Wolfgang (1974), in a correlational study, found that advanced readers displayed higher levels of play. He suggested that children who have the ability to operate at higher levels of integrated symbolic play may in fact have more success with the printed symbol. Is it

possible then that children who demonstrate fantasy, role-playing, and imaginative construction play are operating at a higher cognitive level? David Elkind (1974), in Piagetian based research, suggests that children must reach a certain level of logic (concrete operations) in thinking before they can handle the printed symbol. Can a play atmosphere facilitate this development?

Research was reported by Rubin and Maioni (1975) in a correlational study which revealed a significant relationship between level of play and the ability to classify.

Sigel (1971), in studies investigating cognitive activity, found that children who demonstrated an inability to categorize also exhibited low level play behaviour, showing a high percentage of motor activity, little block construction and role-playing. Does play then represent the pre-existing cognitive status of an individual or does it assist development of that status? Does play constitute thought or is it an expression of thought? Sutton-Smith (1971) indicates that there are "functional interrelations between skills learned in games and aspects of player personality and cognitive style" (p. 257).

Play and Social Development

Much of play is very social in its nature and yet its role in social development is relatively unexplored. Marshall and Hahn (1967) and Nahame-Huang, Singer, and Bowles (1977) suggest play is an effective tool for extending the social development of young children.

More evidence is available from Saltz and Johnson (1974) who reported that children tutored in fantasy play scored higher on measures of empathy, on the ability to express the feelings of another.

Rubin and Maioni (1975) report that level of play correlates with the ability to take the role of another. Perhaps peer interactions and role-playing provide opportunities to develop role-taking abilities and understand cause and effect relationships. This supports the Piagetian notion of peer interaction in play lessening egocentricity.

Emotional Development

Little conclusive research has been found that links play and emotional development. Singer (1973) maintains that the child who displays less imagination is more prone to resort to physical contact that is ineffective and disruptive.

Smilansky (1968) found that with increased role-playing behaviour there appeared more positive affect and less aggressive and hyperactive behaviour.

Freyburg (1973) associated enhanced fantasy play with more positive expression of emotion.

Salzberg, Hopkins, Wheeler, and Taylor (1974) report a reduction of kindergarten children's disruptive behaviour with delayed feedback which was paired with contingent access to play.

Singer and Singer (1976) report that children who engage in imaginative play experience display a reduction in levels of anxiety.

Nahame-Huang et al. (1977) report research that found that the child with a high level of imaginative play is more capable of delaying gratification and inhibiting inappropriate goal-oriented motor responses than the less imaginative child.

Many focus on the role of imaginative and fantasy play. It is

considered by many (Erikson, Piaget, Klinger, Singer) to be the highest level of play behaviour.

Play appears to reflect the degree to which a child can impose his own sense of structure and sequence to the environment. Not only is play a gauge of competency, but it also appears to be the vehicle that is instrumental to the development of various competencies. The research indicates that high levels of play facilitate language development; foster creativity; enhance problem-solving abilities; and are related to reading achievement, IQ scores, perception scores, and the ability to classify and sequence.

Although the evidence is inconclusive, play appears to be instrumental to social and emotional development.

Research Relevant to the Content of Play

Much of play research is descriptive or descriptive-correlational. The content of children's play--the visible components of play behaviour--have been examined. Researchers have examined what children are playing, when and where they are playing it, and with whom. Sequences of play actions and social interactions patterns have been analyzed and play content has been expressed in terms of developmental patterns and factors influencing this development.

The following is an examination of the research and the insight it provides on the content of play. Cognitive developmental patterns have been examined first, then social development trends and finally factors influencing play's developmental trends.

Cognitive Developmental Patterns

Piaget (1962) has extensively analyzed and described the developmental trend of play. Using the Piagetian foundation, Smilansky describes play development cognitively as consisting of the following four stages which were more fully described in Chapter III. These are functional play, constructive play, dramatic play, and games with rules.

Smilansky in her explanation of dramatic play as symbol play can be criticized for she does not acknowledge constructive play as also being symbolic. Constructive play is not necessarily always symbolic, for a structure can be created without a specific image or concept in mind, but it can be symbolic in nature.

Sutton-Smith (1970), in an examination of play content in 1 to 5 year olds, describes four conceptual play systems or ways of playing: exploration, testing, imitating, and construction. He maintains all play behaviour can fall into these categories which are the modes of knowing the world. Later in 1970, Sutton-Smith provided a descriptive account of the four modes of children's play with descriptions of each mode; typical exploratory, testing, imitating, and constructing behaviours; recommended play materials and social play patterns of the particular age level. For example, at age two, a child's play consists of simple imitations, extensive exploratory behaviour, little construction, little test play, and the social play is adult-centred. Similar accounts are described for the other modes, from the first to the fifth year.

More recent developmental research has focused on symbolic play, its emergence and salient characteristics. Lowe (1975) reports

that the emergence of symbolic play coincides with that of verbal language. She describes stages in the acquisition of representational play which appear between the 12th and 36th month and identifies the 21st month as the transitional time in acquiring representational play.

Fenson et al. (1976) reveal supporting results as they identify the emergence of symbolic play to be between 13 and 20 months.

Nicolich (1977), in a non-linguistic symbolic assessment, describes sequences of pre-symbolic and symbol levels in 14 to 19 month old children who were observed monthly for a year. She found that children progressed through the play and symbolic levels described by Piaget. Despite differences in the ages of attainment and frequency of pretend play, invariant cognitive patterns existed in the transition from sensorimotor play to initial symbolic play.

Thus, in considering the above findings and the theoretic literature, the cognitive phases of play might appear as:

1. Sensorimotor play. Here the child is involved in sensory and reflex activities. He feels, tastes, listens, watches, and smells the world about him. His behaviour is repetitive and without much purpose other than pleasure and because an object is within response distance. Often there is no visual focus, only a grasp, release, grasp, release of an object, person, or self. This begins early in the first year of life.

2. Anticipatory play. This occurs later in the first year after sensorimotor play and before symbolic play. Here the child begins to focus on objects--shake a toy for no definite reason, shaking it because it produces a sound. The child takes advantage of activity

opportunities--sucking a new toy. Then activities take on an investigatory nature, one of exploring properties. Through combinations of chance happenings the child discovers he can affect things--cause things to happen. He doesn't know why but he repeats actions for pleasure, e.g., banging a block. The child begins to anticipate an end. He varies action to explore results. He develops perceptions of objects and some notion of function, e.g., a cup can roll, pour sand. The child begins to realize sensory properties of objects without conceptual understanding. Blocks can stack.

3. Symbolic play. Perceptions of object characteristics are related, concepts and representations formed. For example, a cup is to drink from, blocks can form a tower. The child then proceeds into pretend play where the doll can drink from an empty cup and into make-believe play where the cup may become a hat or some other representation. This extends into thematic play where a child is involved in sequential representation--the fighting of a fire, jumping on a truck, pulling out the ladder, spraying water on a fire.

Symbolic play begins later in the second year of life and continues to adulthood. Games with rules may be viewed as a type of symbolic play as well, with the symbols now moving away from the concrete realm to the abstract realm. Dramatic play itself includes abstract symbolism.

Symbolic play development in itself is very intricate. Important also is that at any stage of development more than one type of play can be observed, and at no time does Sensorymotor or Anticipatory play ever disappear.

The research discloses definite patterns and trends in play development, but questions like the following still arise:

1. Do all children pass invariably through all stages?
2. Do all children reach the same levels of play development?

The knowledge in the area is sparse but the demand for and interest in further research is growing.

Social Development Patterns

Social development trends were first examined and described by Parten (1933). Iwanga (1973) elaborates on Parten's work and describes four stages in social development: solitary play, parallel play, complementary play, and cooperative play, each of which were more fully reported in Chapter III.

Others, in examining solitary play in kindergarten children, maintained that it was indicative of independence and maturity. Parten and Iwanga found a high incidence of solitary play in younger children 2 to 3 years of age. They interpret solitary play in a slightly different manner. A child aged 2 to 3 years appears to be unable to attend to materials and respond to others simultaneously. Thus, it is a less mature form of behaviour.

Garvey (1973) suggests that genuine social behaviour occurs in children between ages $3\frac{1}{2}$ to 5 years and that spontaneous speech of this age reflects the emergence of social understanding. Garvey (1974) further examined social play in similar aged children and identified three characteristics or abilities which appear "to underlie social play: the ability to distinguish play and non-play states, the ability to abstract the organizing rule from its specific or local

representation, and the ability to identify a theme of an interaction and contribute to its development" (pp. 178-179). It may be that children who exhibit little social play are deficient in these abilities.

Eifferman (1970) reports interesting findings in play group size which tends to increase with both age and socio-economic level. She found that most frequent group play size among children 6 to 12 years of age is two, with the exception of high socio-economic level children, for whom the most frequent size is four.

The research on the content of play appears to indicate that play development proceeds through cognitive and social stages and that children perhaps with small variations in time and quality will pass through all stages. Variations in development are caused by many different factors and their combinations. They are discussed in the following section.

Factors Affecting Play Development

Research reveals that the level of development a child reaches in his play is affected by many environmental variables. They include:

1. socio-economic status,
2. sex differences,
3. cultural differences,
4. parental behaviour,
5. personality differences,
6. quality of environment.

Socio-economic status appears to affect the progress of play development. Many (Collard, 1971; Eifferman, 1970; Feitelson & Ross,

1973; Rubin et al., 1976; Smilansky, 1968) have given us evidence that children from a low socio-economic status do not exhibit the level of play development or progress as quickly in their development as children from a higher socio-economic status.

Sutton-Smith (1963, 1965, 1971) has explored the area of sex differences in association with play preference, game choices, and play behaviour. He found a relationship between children's responses to masculine and feminine items on a play inventory, and ratings of masculinity and femininity on free play behaviour.

Grief (1976), in examining sex-roles in preschool children, found that the amount of sex-role play for younger children was 5 per cent and increased to 22 per cent for older preschoolers. At $4\frac{1}{2}$ years, sex-role play increased sharply and the amount of pretend play decreased. The study questions the view that preschool children are egocentric. In play, children regularly involve themselves in sex-appropriate roles, and use them to maintain and initiate social play. Little is still known about how significant adults and peers influence sex-role development.

In cross-cultural work with games, Sutton-Smith (1971) found a functional relationship between games, cultural patterns and cognitive styles. Games of physical skill were found in cultures where hunting and survival were important. Games of chance occur in cultures where there is reliance on divinatory decision-making and where children are restricted during early years. Games of strategy occur in cultures when there is a stress on obedience and diplomacy. Bruner (1976) proposes that the rule structure of human play and games sensitizes the child to the rules of the culture and is in essence a

preparation for a particular life style. Bruner (1976) states that, "culture is symbolism in action" (p. 19). Burridge (1976) supports Bruner in his report of the cooperative play of the Tangu in New Guinea. He found a formal rule structure in the "taketak" game which very closely resembled the cooperative pattern of the adult society. Moral equality in a Tangu society is highly regarded and the end product of the game is to establish both teams as equivalent as opposed to our notion of finding a winner.

Roberts and Sutton-Smith (1971), in cross-cultural studies, report that as cultures increase in their complexity, technologically, and economically, so do their games. There appears to be more play in complex cultures and a greater number and variety of games.

There are also cultural differences in amounts of play. Open-ended cultures of the Aborigines or Eskimos display a great deal of play in childhood. A Hindu culture on the Mauritius Island in the midst of the Indian Ocean displays little childhood play (Sutton-Smith, 1975). While parents worked on the plantation, the 7 year old prepared and cooked the evening meal, while the 5 year old attended the baby. At a nursery school nearby, 3 and 4 year olds sat quietly with their slates during letter writing instruction.

Another strong factor affecting play development is parental behaviour. Collard (1971) found that institutionalized children were found to explore less and displayed less social play than did home reared babies. Main (1974), in a correlational study, found securely attached infants played longer, more intensely for longer periods of time, displayed more positive effect and also paid more attention to particular features of toys. In another correlational study, Bishop

and Chase (1971) found a strong relationship between mothers' conceptual systems and measures of children's play. Mothers who were more abstract in their thinking were able to enhance the playfulness of their children. The children of these mothers exhibited more complex and varied choice behaviours on performance tasks. No significant relationship was found with fathers' conceptual systems.

Ross, Rheingold and Eckerman (1972) reported that more secure children displayed more novelty-seeking behaviour than children who were less secure. Early rearing practices appear to affect play and personality development.

Further, Pulaski (1970), in her study on play, toy structure, and fantasy predisposition, found that many children by 3 years of age already have a high predisposition to fantasy. High fantasy children became more involved and showed higher concentration in their play. Exactly what contributed to this high fantasy development is not known. Research is needed to delve into the rearing practices and cultural factors that contribute to fantasy development.

Pulaski (1970) also revealed another environmental factor affecting play. She reported that minimally structured toys like blocks, clay, paints, dress-up materials, and rag dolls, produced a greater variety in children's play than did highly structured toys like costumes, clay moulds, doll houses, and service stations.

Sharpe (1973) reported that classrooms of teachers low in directiveness produced more high level cognitive play and more social play than classrooms of teachers high in directiveness.

Toy complexity and structure also appear to affect children's play. Hutt (1971) investigated exploratory activity elicited by novel

objects. She found auditory feedback to be more significant than visual feedback in eliciting and maintaining play responses. Scholtz (1974) and Scholtz and Ellis (1975) found that the amount of interaction in a play situation was related significantly to the complexity and novelty of the physical setting. Increased familiarity with the setting was significantly related to decreased attention to play.

Rutherford (1973), in an experimental study, found that stress conditions reduced the amounts of imaginative-fantasy play and increased the amount of construction play. Children appear to move into construction play during stressful situations.

Several studies have examined the general quality of an environment and their effects on play. Hoffman (1976), in a correlational study, found the higher the scores on quality, the lower the scores on uninvolvement in play. Rosenthal (1974) found similar results and concluded that the setting variables were more important predictors of the course and content of play than variables of sex, race, and age. Singer (1974) found children's play related closely to adult influence which included encouragement, direction, and reinforcement. Adults had more affect on the play than did television.

Research Relevant to Play Characteristics

The characteristics of play are the criteria which describe its nature, more specifically the components of this intricate behaviour which make it unique and almost definable. The characteristics of play are related to its structure, function, and content--all categories being closely intertwined, making it difficult to discuss any one in isolation.

For example, the fact that play is repetitive has been documented in research. However, the research does not deal only with the character of play but also with the functions, the content, and the structure of play. Thus the characteristics of play as they appear in the research are interwoven with research in the other categories.

Little actual research has been done to determine play characteristics as they have been drawn out in much of the theoretical literature. The research is mainly descriptive in nature. The characteristics of play which have been supported by research are discussed in this section. They are play as imitative, novelty-seeking, exploratory, repetitive, rule-bound, and social.

Hicks (1971) and Durrell and Weisberg (1973) examined imitative behaviour in children's play. Durrell and Weisberg's experimental study indicated that imitation was affected by reinforcement and by model distinctiveness.

An interesting additional finding was that the non-imitative group, that is, the group that received less reward for imitation, revealed more original play.

Hicks' (1971) correlational study revealed that increases in imitation of behaviour were related to positive attitude toward the model.

There is evidence to indicate play is novelty-seeking as reported by Scholtz (1974). His study revealed the total amount of interaction with the physical setting was positively related to its novelty and complexity. Repeated exposure to the setting decreased apparatus use. More complex items sustained activity. Scholtz and

Ellis (1975), in a similar study examining play setting, found object preference higher in a more complex setting. Again, familiarity with objects decreased preference. Rabinowitz, Moely, and Finkel (1975) also report play to be decreased by exposure to objects, reinforcing the notion that play is novelty-seeking behaviour.

The Scholtz studies also revealed that preference for peers increased with repeated exposure, which supports the social characteristic of play. Grief (1973), in a descriptive study, indicated that all children engaged in spontaneous role-playing.

Hutt (1971) reveals the exploratory nature of place. Sutton-Smith (1974) explains exploration as one of the main facets of play. Other characteristics he deems relevant are play as voluntary, repetitive, novelty-seeking, flowing, active, and flexible.

Garvey (1974) and Bruner (1976) reveal the rule-bound nature of play in studies previously discussed.

Little research has been done on the spontaneous, voluntary, free nature of play. The Yerkes-Dodson law reported in Bruner (1976) states that the more complex the skill to be learnt, the lower the optimum level of motivation. Play, with its inherent element of freedom, removes constraints, minimizes the consequences of actions, involves the processes preceding the product and, finally, gives the individual a licence to attend to one or all possibilities and details inherent in things and events however irrelevant.

Summary

In summary, the research on play is as multifaced and diverse as the theoretical literature. The categories of analysis were

interwoven and often revealed results in more than one area of the framework.

There was relatively little research dealing with the structure of play. Research revealing rule systems within the play of very young children suggested early cognitive organization and symbolic functioning--a structure of play.

Functional research is greater in abundance and reveals play's facilitative qualities as well as its relationship to a wide range of competencies.

Research on the content of play revealed its developmental nature between birth and early childhood. There was little information on play patterns in middle to later childhood. Content research also revealed the many factors which affect play's development.

The research on characteristics provided implications for educational goals.

Chapter V further discusses the research findings.

Chapter V

SUMMARY, CONCLUSIONS AND IMPLICATIONS

In this study, various theoretical positions of play were examined and a framework presented for analyzing these positions. This framework was further used to review current research and to relate it to the theoretical literature.

The framework consisted of four categories--the structure of play, the functions of play, the content of play, and the characteristics of play. The purpose of this chapter is to summarize the results of the analysis and examine their implications. More specifically, the chapter contains:

1. a discussion of the concept of play;
2. a summary of the framework constructs and their efficacy as descriptors of the play concept;
3. a summary of the findings of the analysis of both the theoretical and research literature through the four major constructs;
4. a discussion of educational implications and areas of needed research.

Concept of Play

Play, often reputed as indefinable, is frequently described in terms of characteristics. Play is pleasure oriented, spontaneous, voluntary, repetitive, exploratory, and the list continues. Play is a process that is influenced by the nature of the child's personality

and the environment in which it occurs; therefore, it becomes almost indefinable in behavioural terms. Vygotsky (1966) maintains that "all examinations of the essence of play have shown that in play a new relationship is created between the semantic and visible fields--that is, between situations in thought and real situations" (p. 17). Ellis (1973) describes "pure play" as a time when extrinsic consequences are eliminated and a behaviour is driven solely by intrinsic motivation. Britton (1971) further discussed play "as an area of free activity lying between the world of shared and verifiable experience and the world of inner necessity--the third area" (p. 43). Diagrammatically it may appear as:

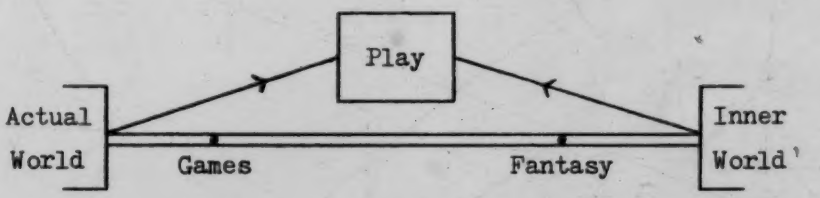

Figure 2. The concept of play.

Words like games and fantasy are often used in connection with play. Games fall nearer to the "Actual World" end of the continuum as they tend to possess more external environmental controls. Fantasy, on the other hand, would be located nearer to the "Inner World" where play attends to inner necessity and is not always visible. Both games and fantasy possess play-like features. Both are aspects of play.

Framework Efficacy

The four categories of play have proven valuable as they

allowed the theoretical literature to be examined in terms of focus. Is a theory mainly structure, function, or content oriented, or has its development included a combination of categories?

The categories permitted some examination of theoretical and empirical strengths and shortcomings and further enabled them to be compared and contrasted.

Overall, the framework presented in this paper provided a basis for analyzing and assessing the literature and research. It enabled an examination of the aspects of the phenomenon, an investigation of related research, comparisons of theoretical and empirical positions, and a delineation of possible implications for education and research.

Results of Category Analysis

An analysis of the play theories through the use of the four-category framework disclosed several features of play.

Structural Features

First there are few structural theories on play and equally as little empirical research. Piaget's (1962) theory is the most extensive. Piaget not only defined play structurally but analyzed explicitly the structure of play. His theory is one of the few which provides explanations in each of the four construct areas, with its greatest strength in the explanation of play structure. He focuses on the constituents of cognitive functioning, sensory and pre-conceptual functioning, and the development of representation.

Piaget describes play as assimilation, the developing of sequences of actions called schemas. Through these schemas the child

begins to differentiate between self and reality. Piaget describes the process of integration and generalization of schemas as he describes the stages of play development. His theory has served as the basis of several other theoretical explanations and in much of the recent empirical research.

Ellis, in a review of play theories, examines structure and attempts to define play structurally. He examines the extrinsic and intrinsic influences relationship in play. As the extrinsic or external influence diminishes then the associative internal influence of play increases. He maintains that pure play is an internal process but gives us little insight into the structure of that process.

El'Konin (1971) investigates one area of structure, that of symbolic play, and describes the process in play whereby the word is emancipated from the thing--real symbolism occurs. Vygotsky's descriptions are similar as he describes play as severing meaning from the visible object and transferring it to thought.

Bruner examines play's structure in terms of rule systems. "Rather than being 'random' it is usually found to be characterized by a recognizable rule structure" (Bruner, 1976, p. 17). Garvey (1974) and Burridge (1976) also found rule systems within children's play. This research not only indicates that characteristically play can be recognized as having a rule structure but also points to the complex structural nature of play, of which little is actually known. Fenson and Kagan (1976) and Lowe (1975) display beginnings of structural research as they examine the emergence of symbolism. Nicolich (1977) further describes sequences of pre-symbolic and symbolic levels and

invariant cognitive patterns which existed in the transition from sensorymotor play to initial symbolic play. Goodson and Greenfield (1975) identified a parallel structure between play and language. There are strong suggestions that play is related with the cognitive aspects of language, problem solving, creativity, classification, and IQ. The exact nature and process of the relationship remains unknown.

The complex area of symbolic play remains virtually unresearched. Little is known about levels of symbolic play that children reach, why and how they reach particular levels, how symbolic play affects overall cognitive development and the other areas of development--language, creativity, problem solving. Research on the functions of play reveals these areas are affected but there is no structural research which indicates how or why.

Functional Features

Most of the play theorists deal with the function of play. These theories have not denied structure but focus primarily on play as it functions for the child. Most of the historical theories like the surplus energy theory, recapitulation theory, relaxation theory, generalization and compensation theory attempt to explain the functions of play.

Ellis (1973) describes more recent theories by Freud and Erikson that examine one function of play, its cathartic ability. Bruner, Klinger, Singer, and White have contributed to the understanding of play function and have acknowledged play's ability to enhance competency, imagination, and mastery of the environment.

Play function appears to lend itself more readily to empirical

research. Experimental research by Smilansky (1968), Lovinger (1974), Feitelson and Ross (1973), Hartshorn and Brantley (1973), Saltz and Johnson (1974), and Bruner (1976) provides evidence that play affects language development, creativity, problem-solving ability, IQ scores, achievement on perception test, and scores on sequencing and memory tasks.

Correlational research supports experimental findings and further indicates a link between levels or quality of play behaviour and divergent thinking, goal-directed behaviour, quality of fantasy, reading achievement, the ability to classify, to categorize, to empathize, positive expression of emotion, less aggressive behaviour, and role-playing skills.

The examination of the functional theories and research reveal play as being instrumental to the development of a vast number of competencies. Perhaps a causal relationship between play and various competencies and between play and overall competency exists. Research is needed to verify these suppositions.

Content Features

The content of play has revealed many features of its developmental nature. Piaget reveals six stages in the structural development of play from sensorymotor play to symbolic play to games with rules. The process involved in developing adaptive intelligence is discussed.

El'Konin examines structural stages in symbolic play and speech development. Descriptive data revealed the process of word emancipation from object.

Erikson described stages of play behaviour in terms of development of the self and reality. The child moves from realization of the self to the small world of manageable toys to the world shared by others.

Sutton-Smith reveals various modes of behaviour and developmental patterns within each style. Parten and Iwanga reveal social play stages and patterns of interaction.

Smilansky (1968), Lovinger (1974), and Feitelson and Ross (1973) further support the notion that developmental levels of play exist. Socio-dramatic-imaginative play has been considered a high level of play behaviour, one which is not present in the content of all children's play.

The examination of the content of play has revealed its developmental nature, with specific patterns and trends observable. Variations in these trends are created by the environment and the people involved. Sex differences, cultural differences, parenting, personality differences, and quality of the environment appear to affect the level and progress of play development.

More research is required to explore the environmental and human influences on children's play and their long range effects.

The developmental pattern of young children's play (0 - 5 years) appears to have received more attention than play patterns of children 6 years to adult. Children in educational institutions appear to be directed to product oriented activities and play patterns are relatively ignored. Is play no longer important to children after age 5? If it is, what characteristics and development patterns does it take on?

Characteristic Features

Huizinga, in a theory of play as a cultural element, extensively describes play's characteristics. Little empirical research has been exclusively done in this area. Characteristics have been revealed in many theoretical play examinations and stated or implied in the content research.

The available research supports play as imitative, novelty-seeking, rule-bound, repetitive, and social in nature.

The examination of play characteristics has revealed the specific nature of the phenomenon termed play and has provided many implications for organization of play environments.

Play is identified as spontaneous, voluntary activity, one which is free from constraints. What constraints can be imposed, what structure can be imposed on play without affecting its very nature and its intrinsic motivating qualities? Research in this area is required to answer these questions.

Conclusions

Play is Important

Further, this study presents several general conclusions. The mainstream thought on children's play suggests that play is an important phenomenon to understand. The increase in the quantity of theoretical and empirical research within the last decade suggests renewed concerns. Many educators are beginning to associate play with learning and competency. Play in childhood appears to foster adaptability, problem-solving ability, divergent thinking, creativity, language growth, and other affective and cognitive competencies.

Educators look with interest to the very nature of play--its ludic, humorous, open-ended quality. Sylva, Bruner and Genova (1976) aptly express play's almost magnetic quality. Play is an "invitation to the possibilities inherent in things and events. It's the freedom to notice seemingly irrelevant detail" (p. 244).

Play is Complex

This study also reveals play to be a very complex phenomenon with many variables and manifestations. Theories and research have had difficulty accommodating the phenomena. Investigations have stemmed from diverse perspectives--physiological, psychological, sociological, epistemological, anthropological, and ethological areas--revealing play's multifaceted nature. All contribute to the understanding of its complex nature.

Play is Under Review

Thirdly, play is under review. In the past few years it has appeared more frequently in descriptive writings and has become the focus of considerable research. Educators realizing its importance and complexity are attempting to come to terms with its management. Since a large portion of a child's natural activity includes play, should educational processes follow?

"In the life of the child the process of education has assumed critical importance and there has been a tendency for it to expand at the expense of play" (Ellis, 1973, p. 3). Many recognize play's value but are still uncertain as to the most effective way of using it as a curriculum vehicle. The need for research is evident. Ellis (1973) examines the functions of education on a continuum of training to

problem-solving to play. What are the goals of our educational institutions? Where does play belong? If play deserves a place, what constraints are necessary--when and where is structure placed in play oriented curriculum--without loosing the value of play? Perhaps these questions have to be examined closely before play management becomes explicit.

Play is Process-Oriented

Fourthly, play is a process-oriented not product-oriented activity. It reflects individuality. It combines inherited as well as environmental influences and is sustained by a seemingly intrinsic force. It is a behaviour less oriented to specific goals and one which is accompanied by positive affect, decision-making power, investigation, manipulation, and movement. Research has just begun to reveal the nature of this process.

Implications for Practise and Research

The various theoretical positions, the existing empirical research, and the findings suggest implications for the following:

1. educational practices;
2. teacher education;
3. further empirical research and theory building.

The importance of play suggests the need for provision of time and environment for play. Should provision be made?

Newmann (1971) identifies criteria which can assist in identifying and fostering a play environment. One is the freedom to choose a spontaneous activity where the child has the locus of control.

Secondly, the reality of the transaction is defined by the child or the environment. The child selects the rules of procedure and the elements of the environment to which he will attend. Thirdly is the presence of motivation--the child's interest is focused on the activity, on the process and the purpose inherent in the transaction. Fourthly, play should transcend constraints of reality--extend imagination and cognition. A time and a place for play is essential.

Play environments should be rich with possibilities, with many novel materials which are relatively unstructured and changing. Environments should offer extensions of development.

The role of the adult in the environment is significant. A facilitating, extending attitude, low in directiveness, with a respect for the individuality of children is important. Extending play can occur through good questioning techniques, entering role playing situations, encouraging divergent thinking, and by providing related enriching experiences. Since the role of the adult in a play environment is important, so possibly is his training. First-hand knowledge and practise in the theories and recent play research; in observational and in questioning techniques; an ability to enhance children's dramatic imaginative play; and understandings in language and cognitive development can be useful in expanding play environments and extending play experiences.

Further Research

Implications for further research are numerous, many of which have been stated throughout this report.

Briefly, further research is needed in the area of the structure

of play. What is the link between play and cognitive functioning? Insights into concept formation, language development, and their link with play are important. The area of symbolic play and its emergence is relatively unresearched. Are there levels of symbolic play development? Do all children invariably reach these levels? Why or why not? Is sensorimotor play a precursor to symbolic development?

Research dealing with play's relationship to other areas of development--problem-solving, creativity, divergent thinking, reading, classifying, perception, IQ, and affective development--have just begun, with little verification.

The research on play and social development has been primarily descriptive in nature. Research delving into play groupings, social interaction patterns, and competencies could offer much to our educational institutions. How can we best implement play in education?

More research is required in identifying and verifying factors affecting play development and their long term effects. This complex area of study offers limitless areas of research--all vital to the understanding of the phenomenon.

The complex, multifaceted nature of children's play has been but partially described. Descriptions currently available indicate that a full understanding of play is a worthy goal. At this point we are just beginning to realize the enormity of the topic and its importance.

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APPENDICES

APPENDIX A

CLASSICAL THEORIES OF PLAY

Name	Play is caused:	This explanation assumes that:
1a. Surplus Energy: I	by the existence of energy surplus to the needs of survival	1. energy is produced at a constant rate 2. if stored, storage is limited 3. excess must be expended 4. its expenditure is made on overt behavior which is by definition play
1b. Surplus Energy: II	by increased tendency to respond after a period of response deprivation	1. all response systems of the body have a tendency to respond 2. the response threshold is lowered by a period of disuse 3. after periods of disuse, eventually all available responses should reach a low enough threshold to be discharged either by some stimulus events or spontaneously.
2. Instinct	by the inheritance of unlearned capacities to emit playful acts	1. the determinants of our behavior are inherited in the same way that we inherit the genetic code which determines our structure 2. some of those determinants cause play

APPENDIX A (Continued)

Name	Play is caused:	This explanation assumes that:
3. Preparation	by the efforts of the player to prepare for later life	1. play is emitted only by persons preparing for new ways of responding 2. the player is instinctively prepared for responses that will be critical later 3. the instincts governing this are inherited imperfectly and youth is the period during which these imperfectly inherited mechanisms are perfected
4. Recapitulation	by the player recapitulating the history of the development of the species during its development	1. the critical behaviors occurring during the evolution of man are encoded for inheritance 2. a person emits some approximation to all these behaviors during his development 3. since these behaviors are currently irrelevant they are play 4. the stages in our evolution will be followed in the individual's development
5. Relaxation	by the need for an individual to emit responses other than those used in work to allow recuperation	1. players work 2. play involves the emission of responses different from those of work 3. the emission of different responses eliminates the noxious byproducts of work

Source: Ellis, M. J. Why People Play, pp. 46-47.

APPENDIX B

RECENT THEORIES OF PLAY

	Name	Play is caused:	This explanation assumes that:
6.	Generalization	by the players using in their play experiences that have been rewarding at work	1. there are at least two separable categories of behavior 2. the players transfer to play or leisure, behaviors that are rewarded in another setting 3. to be useful we understand what rewards individuals at work
7.	Compensation	by players using their play to satisfy psychic needs not satisfied in or generated by the working behaviors	1. there are at least two separable categories of behavior 2. the player avoids in play or leisure behaviors that are unsatisfying in the work setting experiences that meet his psychic needs 3. to be useful we understand the mismatch of needs and satisfactions in the work setting (or vice versa)
8.	Catharsis	in part by the need to express disorganizing emotions in a harmless way by transferring them to socially sanctioned activity. This concept has been limited almost entirely to questions of aggression, and will be so here	1. frustration of an intention engenders hostility towards the frustrator 2. this frustration or hostility can be redirected to another activity 3. this hostility must be expressed to reduce psychic and physiological stress

APPENDIX B (Continued)

Name	Play is caused:	This explanation assumes that:
9a. Psychoanalytic: I	in part by the players repeating in a playful form strongly unpleasant experiences, thereby reducing their seriousness and allowing their assimilation	1. stimulating unpleasant experiences in another setting reduces the unpleasantness of their residual effects
9b. Psychoanalytic: II	in part by the player during play reversing his role as the passive recipient of strong unpleasant experience, and actively mastering another recipient in a similar way, thus purging the unpleasant effects	1. achieving mastery, even in a simulated experience, allows the elimination of the products of unpleasant experience by passing similar experiences on to other beings or objects
10. Developmental	by the way in which a child's mind develops. Thus play is caused by the growth of the child's intellect and is conditioned by it. Play occurs when the child can impose on reality his own conceptions and constraints	1. play involves the intellect 2. as a result of play, the intellect increases in complexity 3. this process in the human can be separated into stages 4. children pass through these stages in order

APPENDIX B (Continued)

Name	Play is caused:	This explanation assumes that:
11. Learning	by the normal processes that produce learning	1. the child acts to increase the probability of pleasant events 2. the child acts to decrease the probability of unpleasant events 3. the environment is a complex of pleasant and unpleasant effects 4. the environment selects and energizes the play behaviors of its tenants

Source: Ellis, M. J. Why People Play, pp. 78-79.

APPENDIX C

MODERN THEORIES OF PLAY

Name	Play is caused:	This explanation assumes that:
12. Play as Arousal-Seeking	by the need to generate interactions with the environment or self that elevate arousal (level of interest or stimulation) towards the optimal for the individual	1. there is a need for optimal arousal 2. change in arousal towards optimal is pleasant 3. the organism learns the behaviors that result in that feeling and vice versa 4. stimuli vary in their capacity to arouse 5. stimuli that arouse are those involving novelty, complexity, and/or dissonance, i.e., information 6. the organism will be forced to emit changing behavior and maintain engagement with arousing stimuli
13. Competence/ Effectance	by a need to produce effects in the environment. Such effects demonstrate competence and result in feelings of effectance	1. demonstration of competence leads to feelings of effectance 2. effectance is pleasant 3. effectance increases the probability of tests of competence

Source: Ellis, M. J. Why People Play, p. 111.